I.
INTRODUCTORY LECTURE - ABSTRACT

PEDIATRIC HEMATOPOIETIC STEM CELL TRANSPLANTATION IN POLAND – DEVELOPMENT AND CURRENT STATUS

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PPLLSG transplant centers: within PPLLSG three transplant centers are active, i.e. in Poznań (since 1989), in Wrocław (since 1994) and in Lublin (since 1998).

No. of transplant rooms: number of transplant rooms was growing from 1 in 1989 to 19 in 2000 (12 in Wrocław, 4 in Lublin, 3 in Poznań).

No. of patients and type (allo/auto) of HSCT per year: 1989 - 1/0 (Poznań); 1990 to 1992 - 5/0 (Poznań); 1993 - 6/0 (Poznań); 1994 - 12 (1/5 in Wrocław, 6/0 in Poznań); 1995 - 17 (1/6 in Wrocław, 10/0 in Poznań); 1996 - 34 (9/15 in Wrocław, 10/0 in Poznań); 1997 - 37 (5/21 in Wrocław, 11/0 in Poznań); 1998 - 45 (8/21 in Wrocław, 14/0 in Poznań, 0/2 in Lublin); 1999 - 66 (14/16 in Wrocław, 1/19 in Lublin, 16/0 in Poznań); 2000 - 84 (22/21 in Wrocław, 16/5 in Poznań, 6/14 in Lublin). Total number of patients and type of transplant: 317 [allo 172 (54,3%)/ auto 145 (45,7%)].

Indications for allo-HSCT: ALL 62 (36,0%), AML 31 (18,0%), CML 25 (14,5%), SAA 20 (11,6%), MDS 13 (7,6%), B-DA 6 (3,5%), NHL 5 (2,9%), SCID 5 (2,9%), FA 4 (2,3%), Ewing s. 1 (0,6%), i.e. malignant diseases 137 (79,7%) and non-malignant diseases 35 (20,3%) (congenital 15, acquired 20).

Indications for auto-HSCT: NHL 39 (26,9%), ALL 21 (14,5%), AML 21 (14,5%), RMS 16 (11,0%), NBL 15 (10,3%), Ewing s. 11 (7,6%), HD 9 (6,2%), CML 2 (1,4%), other solid tumors 11 (7,6%), i.e. leukemia + lymphoma 92 (63,4%) and solid tumors 53 (36,6%).

Stem cell sources for allo-HSCT: BM 152 (88,4%), PBSC 17 (79,9%) - in Wrocław since 1996, BM+PBSC 2 (1,2%), CB 1 (0,6%) – in Poznań since 2000.

Stem cell sources for auto-HSCT: PBSC 124 (85,5%), BM+PBSC 15 (10,3%), BM 6 (4,1%).

Donor type for allo-HSCT: MSD 148 (86,0%), MMRD 18 (10,5%) - in Wrocław since 1996, MUD 6 (3,5%) - in Wrocław since 2000.

Conclusion: There was significant development of HSCT within PPLLSG centers in the nineties. However, in context of 1500 new cases of cancer diagnosed and treated each year in these centers as well as in context of contemporary role of HSCT in cancer therapy in children, the number of auto- and allo-HSCT (especially from alternative donors and from alternative sources) performed in pediatric centers is still too low. Further increase of HSCT number is necessary to fulfil therapeutical standards and to improve treatment results in Polish children with cancer.

II.
ORIGINAL PAPERS - ABSTRACTS

1.
SEVERE NEUROLOGICAL EVENTS (SNE) AFTER BONE MARROW TRANSPLANTATION (BMT) IN CHILDREN

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To evaluate incidence, risk factors and outcome of SNE after BMT,

we retrospectively evaluated 272 (169 M, 103 F) consecutive children that between June 1985 and January 2001 underwent BMT at the "G. Gaslini" Institute. Subjects with solid tumor were excluded. Their median age at transplant was 8 years (range 2 mos. - I 9 yr.), and the source of stem cells was autologous (A), related donor (RD)., and unrelated donor (UD) in 87, 115 and 70 subjects, respectively. 166 children received total body irradiation (TBI) as part of the conditioning regimen; 63 received Busulfan while 43 were treated with other drugs; finally, 54 children received cranial prophylactic irradiation (CPI) (1800 cGy) during front line treatment before BMT.

A total of 41 SNE were observed in 37 children (18 M, 19 F); their median age at BMT was 10 years (range 2 - 16 yr.). Neurological symptoms occurred after a median time of 92 days (range 5 – 3203) The source of HSCT was UD-BM, RD-BM, and A-BM in 19, 16, and 2 cases respectively.). Ten of them received CPI before BMT. Neurological symptoms were: seizures (n=20), changes of mental status and coma (n=12), motor or sensitive defects (n=6), progressive loss of cognitive functions (n=3), clonus and myoclonus (n=2) and visual impairment (n=1). Causes of neurological symptoms were attributed to CSA toxicity (CSA-t) in 21 pt. (77%), to irradiation or chemotherapy injury (IC-i) in 7 (2.6%), to CNS infections (CNS-I) in 7 (2.6%), to CNS hemorrhages in 3 pt. (1.1%) and to immunomediated pathogenesis in the remaining 3 (1.1%). CSA-t occurred in 21 out of 185 patients receiving immunosuppressive therapy. Onset of symptoms was after a median of 96 days (range 20 - 370 days) after BMT. When CSA was discontinued, a complete resolution of SNE was observed in all cases. The 7 IC-i occurred between 1 month and 7 years after BMT. Mental deterioration and /or coma were observed in 5, clonus and dysarthria in one and visual impairment in another. CNS-I were observed in 7 pt. and were mostly of viral origin (2 cases of EBV, and 1 of CMV, HHV6 and adenovirus, respectively), whereas the 2 remaining cases had neurotoxoplasmosis and aspergillosis. The 3 CNS hemorrhages occurred 30, 50 and 250 days from BMT, respectively. Finally the 3 immunomedia-ted SNE were due to a demyelinating leucoencephalopathy in the context of ex-tensive chronic GvHD in 2 cases; and to a Guillain-Barré syndrome in the remainning one.

Preliminary analysis shows that type of BMT ($p<0.01$) and TBI ($p<0.05$) are risk factors for SNE; gender, age at BMT, and CPI were not associated with an increased risk of SNE. Risk factors for the 5 different types of SNE will be presented and discussed.

2.
LATE ONSET IDIOPATHIC THROMBOCYTOPENIC PURPURA CORRELATES WITH RAPID B CELL RECOVERY IN CHILDREN AFTER ALLOGENEIC TRANSPLANTS FROM ALTERNATIVE DONORS. SINGLE CENTRE EXPERIENCE

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Late onset steroid-resistant idiopathic thrombocytopenic purpura (ITP) after allogeneic transplant remains rare yet important clinical problem. Two cases of ITP late post transplant are reported and discussed.

Patient UPN 176. 16-year old girl with MDS-RA underwent allogeneic PBSCT from male matched unrelated donor in August 2000. She was conditioned with Bu 16mg/kg, Cy 200 mg/kg and ATG 20 mg/kg. GvHD prophylaxis consisted of CsA, MTX and methylprednisolone (MP). Hematological recovery was adequate: ANC > 0.5 G/l on day +16, platelets > 50 G/l on day +33. Mild aGvHD I° resolved quickly. No complications were observed until January 2001 (147 days after transplantation), when she developed ITP with a platelet count of 7 G/l and numerous petechiae. BM biopsy confirmed trilineage engratfment with almost 100%